L Number	Hits	Search Text	DB	Time stamp
1	34	leader$5 with elect$6 with (multicast$5 group$6)	USPAT	2003/09/19 15:36
2	10	(y near huang).in.	USPAT	2003/09/19 15:37
3	259	singh near s) (kurose near j	USPAT	2003/09/19 15:38
4	34	(singh near s) (kurose near j) and (7$/$).ccls.	USPAT	2003/09/19 15:42
5	1	5738732.pn.	USPAT	2003/09/19 15:42
6	0	538732.pn.	USPAT	2003/09/19 15:42
7	1	5938732.pn.	USPAT	2003/09/19 15:43
8	1	5938732.pn. and (leader$5 same (elect$5 select$5))	USPAT	2003/09/19 15:44
9	1	5938732.pn. and (leader$5)	USPAT	2003/09/19 15:44
10	0	5938732.pn. and (leader$5 with priori$6)	USPAT	2003/09/19 15:44
11	0	5938732.pn. and (leader$5 same prior$6)	USPAT	2003/09/19 15:45
12	1	5938732.pn. and (leader$5 prior$6)	USPAT	2003/09/19 15:45
13	1	5938732.pn. and (leader$5 priorit$6)	USPAT	2003/09/19 15:45
14	1	5699501.pn. and (membership near list$5)	USPAT	2003/09/19 17:09

Advanced Search Preferences Language Tools Search Tips

multicast elect leader Google Search

Web · Images · Groups · Directory · News ·

Searched the web for **multicast elect leader**. Results **1** - **10** of about **892**. Search took **0.14** secon

[PDF]An Analysis of **Leader** Election for **Multicast** Groups
File Format: PDF/Adobe Acrobat - View as HTML
... lead router to track host interest in **multicast** groups [6 ... all processes and it results in a single **leader**. ... an algorithm could be used to **elect** multiple leaders ...
www.cs.caltech.edu/~schooler/papers/le_analysis.pdf - Similar pages

Leader Selection
... of the hierarchy is divided into groups formed by the scoping of messages sent out on the **multicast** layer. Within a group, peer agents must **elect** a **leader**. ...
www.cs.caltech.edu/~schooler/ marychan/paper/node11.html - 6k - Cached - Similar pages
[More results from www.cs.caltech.edu]

Citation details: Ad Hoc On-Demand Distance Vector - Royer, Das, ...
... The **multicast** operation of the Ad hoc On Demand Distance Vector (AODV) routing protocol [6, 7] performs **leader** election to **elect** a new **multicast** group **leader** ...
citeseer.nj.nec.com/context/1243593/0 - 6k - Cached - Similar pages

Citations: Lightweight causal and atomic group **multicast** - Birman ...
... decision with a single message delay [1]. If the **leader** fails, the ... eg to remove a faulty primary and **elect** a new ... Lightweight causal and atomic group **multicast**. ...
citeseer.nj.nec.com/context/3056/0 - 39k - Cached - Similar pages
[More results from citeseer.nj.nec.com]

[PS]1
File Format: Adobe PostScript - View as Text
... first one to make a willing broadcast is the **leader**;. ... primary Primary crashes Eliminate Primary;**Elect** new primary Distributing ... Primary crashesDuring **multicast**. ...
homepages.cs.ncl.ac.uk/paul.ezhilchelvan/ home.formal/papers/BloreHandouts.ps - Similar pages

FoRK Archive: Re: Review requested: Self-Organizing **Multicast** ID
... Self-Organizing **Multicast**, > MTP/SO ... to build similar large groups that are not **leader**-based, but ... the protocols required to detect their failure, **elect** a new ...
www.xent.com/FoRK-archive/feb98/0296.html - 12k - Cached - Similar pages

[PPT]CSE 536
File Format: Microsoft Powerpoint 97 - View as HTML
... Ordered according to timestamp. **Multicast** acknowledgement. ... As controller or coordinator. We need to **elect** a **leader** on startup and when current **leader** fails. ...
www.eas.asu.edu/~cse536s2/lectures/lect10.ppt - Similar pages

[PDF]Self Organized Subnets (SOS)
File Format: PDF/Adobe Acrobat - View as HTML
... update (ID, subnet prefix) to Source Node yes no Packet to all-routers **multicast** address no ... Algorithm • Routers **elect** a **leader** • **Leader** collects state ...
www.scs.carleton.ca/~adhocnow/ NETWORKS/infonet-030325.pdf - Similar pages

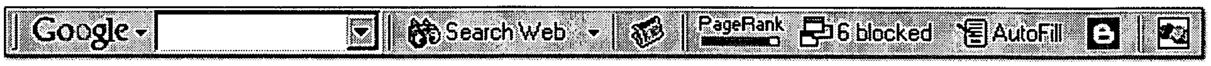
[PDF]An Analysis of Fault Isolation in Multi-Source **Multicast** Session
File Format: PDF/Adobe Acrobat - View as HTML
... The way to **elect** a group **leader** is, first new join member send a "i-am-**leader**" packet to subnet using **multicast** scoping not to forward beyond its group, if ...
cosmos.kaist.ac.kr/~hkpark/data/hkparkapan0308v2.pdf - Similar pages

[PDF] A Probabilistically Correct **Leader** Election Protocol for Large ...
File Format: PDF/Adobe Acrobat - View as HTML
... The initiating **multicast** I is **multicast** to the entire group, but ... failures, each connected component of this graph will **elect** exactly one **leader**, with a ...
www.cs.cornell.edu/gupta/Papers/disc2000.final.pdf - Similar pages

Gooooooooooogle ▶
Result Page: **1** 2 3 4 5 6 7 8 9 10 **Next**

multicast elect leader | Google Search | Search within results

Dissatisfied with your search results? Help us improve.

Get the Google Toolbar: 

Google Home - Advertise with Us - Business Solutions - Services & Tools - Jobs, Press, & Help

Your search matched **5** of **971567** documents.

A maximum of **5** results are displayed, **15** to a page, sorted by **Relevance** in **descending** order.
You may refine your search by editing the current search expression or entering a new one the text box.

Then click **Search Again**.

((elect*)and (leader*)) and(multicast*)

Search Again

Results:
Journal or Magazine = **JNL** Conference = **CNF** Standard = **STD**

---

1 **Group leader election under link-state routing**
Yih Huang; McKinley, P.K.;
Network Protocols, 1997. Proceedings., 1997 International Conference on , 28-31 Oct. 1997
Page(s): 95 -104

[Abstract] [PDF Full-Text (920 KB)] **IEEE CNF**

---

2 **LCM: a multicast core management protocol for link-state routing networks**
Yih Huang; Fleury, E.; McKinley, P.K.;
Communications, 1998. ICC 98. Conference Record.1998 IEEE International Conference on , Volume: 2 , 7-11 June 1998
Page(s): 1197 -1201 vol.2

[Abstract] [PDF Full-Text (512 KB)] **IEEE CNF**

---

3 **Reliable multicast in multi-access wireless LANs**
Kuri, J.; Kasera, S.K.;
INFOCOM '99. Eighteenth Annual Joint Conference of the IEEE Computer and Communications Societies. Proceedings. IEEE , Volume: 2 , 21-25 March 1999
Page(s): 760 -767 vol.2

[Abstract] [PDF Full-Text (816 KB)] **IEEE CNF**

---

4 **Mobility based dynamic multicast protocol in wireless ATM network**

Gyung-Ho Hwang; Dong-Ho Cho;
Vehicular Technology Conference, 1999. VTC 1999 - Fall. IEEE VTS 50th , Volume: 4 , 19-22 Sept. 1999
Page(s): 2009 -2013 vol.4

[Abstract] [PDF Full-Text (432 KB)] **IEEE CNF**

---

5 **The wave expansion approach to broadcasting in multihop radio networks**
Chlamtac, I.;
Communications, IEEE Transactions on , Volume: 39 Issue: 3 , March 1991
Page(s): 426 -433

[Abstract] [PDF Full-Text (708 KB)] **IEEE JNL**

IEEE TRANSACTIONS ON SOFTWARE ENGINEERING, TO APPEAR IN 1999

A Highly Available Local Leader Election Service

Christof Fetzer, Flaviu Cristian

Abstract—We define the highly available local leader election problem, a generalization of the leader election problem for partitionable systems. We propose a protocol that solves the problem efficiently and give some performance measurements of our implementation. The local leader election service has been proven useful in the design and implementation of several fail-aware services for partitionable systems.

Keywords— Local leader election, partitionable systems, timed asynchronous systems, global leader election.

I. Introduction

THE leader election problem [1] requires that a unique leader be elected from a given set of processes. The problem has been widely studied in the research community [2], [3], [4], [5], [6]. One reason for this wide interest is that many distributed protocols need an election protocol as a sub-protocol. For example, in an atomic broadcast protocol the processes could elect a leader that orders the broadcasts so that all correct processes deliver broadcast messages in the same order. The *highly available leader election problem* was defined in [7] as follows: (S) at any point in time there exists at most one leader, and (T) when there is no leader at time s, then within at most κ time units a new leader is elected.

The highly available leader election service was first defined for synchronous systems in which all correct processes are *connected*, that is, can communicate with each other in a timely manner. Recently, the research in fault-tolerant systems has been investigating asynchronous partitionable systems [8], [9], i.e. distributed systems in which the set of processes can split in disjoint subsets due to network failures or excessive performance failures (i.e. processes or messages are not timely ; see Section III for details). Like many other authors do, we call each such subset a *partition*. For example, processes that run in different LANs can become partitioned when the bridge or the network that connects the LANs fails or is "too slow" (see Figure 4). One reason for the research in partitionable systems is that the "primary partition" approaches [10] allow only the processes in one partition to make progress. To increase the availability of services, one often wants services to make progress in all partitions.

Our recent design of a membership [11] and a clock synchronization service for partitionable systems [12] has indicated that we need a leader election service with different properties for partitionable systems than for synchron systems. The first problem that we encountered is hov specify the requirements of such a *local leader election* *vice*. Ideally, such a service should elect exactly one l leader in each partition. However, it is not always pc ble to elect a leader in each partition. For example, w the processes in a partition suffer excessive performa failures, one cannot enforce that there exists exactly local leader in that partition. To approach this probl we have to define in what partitions local leaders hav be elected: we introduce therefore the notion of a *st* *partition*. Informally, all processes in a stable partition connected to each other, i.e. any two processes in a ble partition can communicate with each other in a tin manner. The processes in a stable partition are require elect a local leader within a bounded amount of time. election service might be able to elect a local leader in *unstable partition*, i.e. a partition that is not stable, bu is not guaranteed that there will be a local leader in e unstable partition. We call a process "unstable" when part of an unstable partition.

In each stable partition, a local leader election ser has to elect exactly one local leader. In an unstable p tition the service might not be able to elect exactly local leader. It can be advantageous to split an unst partition into two or more "logical partitions" with local leader each if that enables the processes in eac these logical partitions to communicate with each othe a timely manner (see Figure 1). To explain this, note t our definition of a "stable partition" will require that processes in such a partition be connected to each ot This implies that when the connected relation in a parti is not transitive, that partition is unstable. For exam the connected relation can become non-transitive for tl processes $\{p, q, r\}$ if the network link between p and r f or is overloaded while the links between p and q and q r stay correct (see Figure 2).

In specific circumstances, our local leader service sp an unstable partition into two or more logical partiti with one leader in each. The service makes sure tha timely communication between any two processes in a ical partition is possible. However, sometimes this comi nication has to go via the local leader in case two proce p and r in a logical partition are only connected thro the local leader q (see Figure 2.b). Informally, a log